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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,870	10/12/2006	Alan Edward Litke	LC-509/PCT/US	5885
31217	7590	09/23/2011	EXAMINER	
Loctite Corporation One Henkel Way Rocky Hill, CT 06067			PEPITONE, MICHAEL F	
			ART UNIT	PAPER NUMBER
			1767	
			MAIL DATE	DELIVERY MODE
			09/23/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/599,870

**Applicant(s)**

LITKE ET AL.

**Examiner**

MICHAEL PEPITONE

**Art Unit**

1767

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 34-40 and 43-46 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 34-40 and 43-46 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-804)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34-38, 40, and 43-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Bilkadi *et al.* (US 5,677,050).

Regarding claims 34-35 and 43-44: Bilkadi *et al.* (US '050) teaches an abrasion resistant coating containing a creamer (abstract), wherein Preparation 1 (10:24-39) contains 54.2 wt% PETA {pentaerythritol acrylate}, 8.4 wt% NNDMA {N,N-dimethyl acrylamide}, 38.8 wt% acrylated silica {designated as CER1; PETA premixed with silica} (10:24-39). Bilkadi *et al.* (US '050) teaches example 1 (10:59-11:15) contains 29.8 parts CER1, 70 parts isopropanol, 0.2 parts Tinuvin 292 {methyl 1,2,2,6,6-pentamethyl-4-piperidinyl sebacate (hindered amine light stabilizer, HALS)}, and 1.2 parts Irgacure 184 {1-hydroxycyclohexyl phenyl ketone, absorbs only in UV range (see specification, ¶ 29)} (ex. 1; 10:59-11:15). The resulting composition was coated on a pavement marker, then placed for 2.5 minutes in a forced-air convection oven where the temperature was maintained at 60 °C; this insured that substantially all of the isopropanol solvent flashed-off [corresponding to ~ 52 wt% PETA, 8 wt% NNDMA, 37 wt% silica, as calculated by examiner {with isopropanol flashed off}] (10:59-11:5). The coating was UV cured (ex. 1; 10:59-11:15), and passed test procedure III {abrasion resistance} (9:6-26).

Bilkadi *et al.* (US '050) teaches trimethylol propane triacrylate {TMPT} and pentaerythritol acrylate {PETA} as equivalent multifunctional acrylates (4:57-5:16) {trimethylol propane triacrylate {TMPT} was exchanged for pentaerythritol acrylate {PETA} in Preparation 1 and example 1 [see MPEP 2131.02]}; affording 54.2 wt% TMPT, 8.4 wt% NNDMA, and 38.8 wt% acrylated silica in Preparation 1 {designated as CER1; TMPT premixed with silica}; affording ex. 1 containing ~ 52 wt% TMPTA, 8 wt% NNDMA, 37 wt% silica, as calculated by examiner {with isopropanol flashed off} (10:59-11:5).

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents, in the claimed ranges, was prepared under similar conditions, and that the original specification does not specify that the properties arise from a specific ingredient or process step and therefore appears to be the mere result of the mixture and/or process. Therefore, the claimed effects and physical properties, i.e. the cured coating of the composition maintains about 95% or higher of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825 [instant claim 34]; a viscosity of about 5 to about 3000 cps [instant claim 45], would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

"Products of identical chemical composition can not have mutually exclusive properties."  
A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the

identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) [see MPEP 2112.01].

Regarding claims 36-38 and 40: Bilkadi *et al.* (US '050) teaches CER1 contains colloidal silica Nalco 2327 (10:26) having an average particle diameter of 20 nm (8:27-29).

Claim 39 is rejected under 35 U.S.C. 102(b) as being anticipated by Bilkadi *et al.* (US 5,677,050), as applied to claim 34 above, when taken with Bilkadi *et al.* (US 5,391,210).

Regarding claim 39: Bilkadi *et al.* (US '050) teaches CER1 contains colloidal silica Nalco 2327 (10:26) having an average particle diameter of 20 nm (8:27-29), and the particles are spherical, non-porous, amorphous, non-agglomerated, and monodispersed.

Bilkadi *et al.* (US '210) provides evidence that creamers containing colloidal silica {ex. Nalco 2327, having an average particle diameter of 20 nm} have particles that are spherical, non-porous, amorphous, non-agglomerated, and monodispersed (2:19-22; 2:40-3:54).

Claim 46 is rejected under 35 U.S.C. 102(b) as being anticipated by Bilkadi *et al.* (US 5,677,050).

Regarding claim 46: Bilkadi *et al.* (US '050) teaches a retroreflective sheet containing an abrasion resistant coating (abstract), wherein Preparation 1 (10:24-39) contains 54.2 wt% PETA {pentaerythritol acrylate}, 8.4 wt% NNDMA {N,N-dimethyl acrylamide}, 38.8 wt% acrylated silica {designated as CER1; PETA premixed with silica} (10:24-39). Bilkadi *et al.* (US '050) teaches example 1 (10:59-11:15) contains 29.8 parts CER1, 70 parts isopropanol, 0.2 parts

Tinuvin 292 {methyl 1,2,2,6,6-pentamethyl-4-piperidinyl sebacate (hindered amine light stabilizer, HALS)}, and 1.2 parts Irgacure 184 {1-hydroxycyclohexyl phenyl ketone, absorbs only in UV range (see specification, ¶ 29)} (ex. 1; 10:59-11:15). The resulting composition was coated on a pavement marker, then placed for 2.5 minutes in a forced-air convection oven where the temperature was maintained at 60 °C; this insured that substantially all of the isopropanol solvent flashed-off [corresponding to ~ 52 wt% PETA, 8 wt% NNDMA, 37 wt% silica, as calculated by examiner {with isopropanol flashed off}] (10:59-11:5). The coating was UV cured (ex. 1; 10:59-11:15), and passed test procedure III {abrasion resistance} (9:6-26).

Bilkadi *et al.* (US '050) teaches trimethylol propane triacrylate {TMPT} and pentaerythritol acrylate {PETA} as equivalent multifunctional acrylates (4:57-5:16) {trimethylol propane triacrylate {TMPT} was exchanged for pentaerythritol acrylate {PETA} in Preparation 1 and example 1 [see MPEP 2131.02]}; affording 54.2 wt% TMPT, 8.4 wt% NNDMA, and 38.8 wt% acrylated silica in Preparation 1 {designated as CER1; TMPT premixed with silica}; affording ex. 1 containing ~ 52 wt% TMPTA, 8 wt% NNDMA, 37 wt% silica, as calculated by examiner {with isopropanol flashed off} (10:59-11:5)

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents, in the claimed ranges, was prepared under similar conditions, and that the original specification does not specify that the properties arise from a specific ingredient or process step and therefore appears to be the mere result of the mixture and/or process. Therefore, the claimed effects and physical properties, i.e. the cured coating of the composition maintains about 95% or higher of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about

50 lbs applied per Federal Specification FF-W-1825, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

"Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) [see MPEP 2112.01].

Claims 34-38, 40, and 43-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Kang *et al.* (US 6,265,061).

Regarding claims 34-38, 40, and 45: Kang *et al.* teaches an abrasion resistant coating (abstract, 1:15-20; ex. 4) comprising a ceramer (4:14-40), wherein example 4 (29:65-30:12) was prepared as example 1 (28:50-29:26) and contains 56.2 parts by weight {pbw} trimethylolpropane triacrylate (TMPTA) [TMPTA substituted for pentaerythritol triacrylate (PETA) (19:27-54) [see MPEP 2131.02]]; 35.2 pbw of a colloidal silica having an average particle size of 20 nm {NALCO 2327 [see above]}, 15.6 pbw N,N-dimethylacrylamide {N,N-DMA}, 0.7 pbw of a photoinitiator which absorbs in the range of 180-400 nm (below 333 nm) {IRGACURE 184 (1-hydroxy-cyclohexyl-1-phenyl-ketone)} [see specification, ¶ 29] (29:5-8), and 0.2 pbw phenothiazine (ex. 4; 29:65-30:12). Kang *et al.* teaches TMPTA was heated to about

49 °C and NALCO 2327 was added to form a first admixture {corresponding to NALCO 2327 20 nm colloidal silica particles present as a premix with TMPTA} (28:48-65). Kang *et al.* teaches creamer coating composition was applied to a substrate and flashed dried at about 60 °C to remove the majority of isopropanol (29:9-20) affording ex. 4 containing ~ 48 wt% TMPTA, 13 wt% N,N-DMA, 30 wt% silica, as calculated by examiner {with isopropanol flashed off}. The coating was UV cured (ex. 4; 29:65-30:12), and passed test procedure I {Taber abrasion test} (24:58-25:2).

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents, in the claimed ranges, was prepared under similar conditions, and that the original specification does not specify that the properties arise from a specific ingredient or process step and therefore appears to be the mere result of the mixture and/or process. Therefore, the claimed effects and physical properties, i.e. the cured coating of the composition maintains about 95% or higher of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825 [instant claim 34]; a viscosity of about 5 to about 3000 cps [instant claim 45], would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

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A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the



identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) [see MPEP 2112.01].

Regarding claims 43-44: Kang *et al.* teaches stabilizers {phenothiazine} (21:55-61; 28:62) including ozone stabilizers (22:12-24); thermal stabilizers/antioxidants (22:25-43); UV stabilizers {hydroxyphenyl benzotriazole} (21:62-22:11; 28:30-44) such as hindered amine light stabilizers (Tables 1, 16-17).

Claim 46 is rejected under 35 U.S.C. 102(b) as being anticipated by Kang *et al.* (US 6,265,061).

Regarding claim 46: Kang *et al.* teaches a retroreflective sheet {road reflector} (34:44-63; 37:50-38:64) coated with an abrasion resistant coating (abstract, 1:15-20; ex. 4) comprising a ceramer (4:14-40), wherein example 4 (29:65-30:12) was prepared as example 1 (28:50-29:26) and contains 56.2 parts by weight {pbw} trimethylolpropane triacrylate (TMPTA) [TMPTA substituted for pentaerythritol triacrylate (PETA) (19:27-54) [see MPEP 2131.02]]; 35.2 pbw of a colloidal silica having an average particle size of 20 nm {NALCO 2327 [see above]}, 15.6 pbw N,N-dimethylacrylamide {N,N-DMA}, 0.7 pbw of a photoinitiator which absorbs in the range of 180-400 nm (below 333 nm) {IRGACURE 184 (1-hydroxy-cyclohexyl-1-phenyl-ketone)} [see specification, ¶ 29] (29:5-8), and 0.2 pbw phenothiazine (ex. 4; 29:65-30:12). Kang *et al.* teaches TMPTA was heated to about 49 °C and NALCO 2327 was added to form a first admixture {corresponding to NALCO 2327 20 nm colloidal silica particles present as a premix with TMPTA} (28:48-65). Kang *et al.* teaches creamer coating composition was applied to a

substrate and flashed dried at about 60 °C to remove the majority of isopropanol (29:9-20) affording ex. 4 containing ~ 48 wt% TMPTA, 13 wt% N,N-DMA, 30 wt% silica, as calculated by examiner {with isopropanol flashed off}. The coating was UV cured (ex. 4; 29:65-30:12), and passed test procedure I {Taber abrasion test} (24:58-25:2).

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents, in the claimed ranges, was prepared under similar conditions, and that the original specification does not specify that the properties arise from a specific ingredient or process step and therefore appears to be the mere result of the mixture and/or process. Therefore, the claimed effects and physical properties, i.e. the cured coating of the composition maintains about 95% or higher of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825 [instant claim 46], would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

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Claim 39 is rejected under 35 U.S.C. 102(b) as being anticipated by Kang *et al.* (US 6,265,061), as applied to claim 34 above, when taken with Bilkadi *et al.* (US 5,391,210).

Regarding claim 39: Kang *et al.* teaches TMPTA was added heated to about 49 °C and NALCO 2327 was added to form a first admixture {corresponding to NALCO 2327 20 nm colloidal silica particles present as a premix with TMPTA} (28:48-65), and the particles are spherical, non-porous, amorphous, non-agglomerated, and monodispersed.

Bilkadi *et al.* (US '210) provides evidence that creamers containing colloidal silica {ex. Nalco 2327, having an average particle diameter of 20 nm} have particles that are spherical, non-porous, amorphous, non-agglomerated, and monodispersed (2:19-22; 2:40-3:54).

### ***Response to Arguments***

Applicant's arguments with respect to claims 34-46 have been considered but are moot in view of the new ground(s) of rejection.

Kang *et al.* (US 6,265,061) was relied on for disclosing ex. 4, wherein TMPTA was heated to about 49 °C and NALCO 2327 was added to form a first admixture {corresponding to NALCO 2327 20 nm colloidal silica particles present as a premix with TMPTA} (28:48-65) affording a composition containing ~ 48 wt% TMPTA, 13 wt% N,N-DMA, 30 wt% silica, as calculated by examiner {with isopropanol flashed off}. The coating was UV cured (ex. 4; 29:65-30:12), and passed test procedure I {Taber abrasion test} (24:58-25:2) [see above].

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. See attached form PTO-892.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Pepitone/  
Primary Examiner, Art Unit 1767